

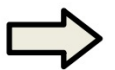


Technology and Learning Connections

Increasing student achievement through the systemic alignment of technology, policies, and curriculum in a multi-tiered system of supports.

Student Response Systems and Accessibility - UDL Approach

Presented by:
Tony Dutra, Region 5 Technology Coordinator TLC-MTSS



UDL - Brain Research



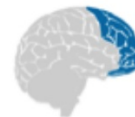
Recognition Network

- The "what" of learning
- Provide Multiple Means of Representation



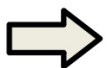
Strategic Network

- The "how" of learning
- Provide Multiple Means of Action and Expression

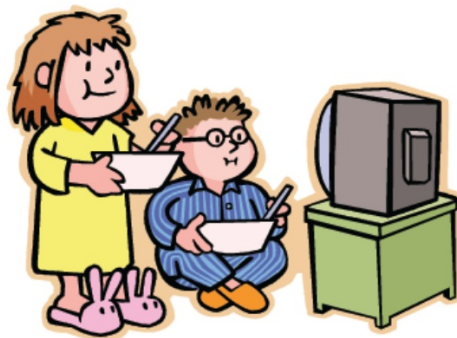


Affective Network

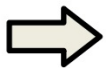
- The "why" of learning
- Provide Multiple Means of Engagement



What is UDL



<http://www.youtube.com/watch?v=pGLTJw0GSxk&feature=related>



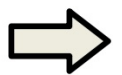
Recognition Network



- Provide Multiple Means of Representation

How we gather facts and categorize what we see, hear, and read.

Identifying letters, words, or an author's style are recognition tasks.



Multiple Means of Representation



Provide options for perception

Provide options for language,
mathematical expressions, and symbols

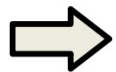
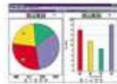
Provide options for comprehension



Multiple Means of Representation



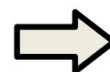
- Provide options for perception
 - Offer ways of customizing the display of information
 - Size of **text**, images, graphs, tables, or other **visual content**
 - Offer alternatives for auditory information
 - Captions or automated speech-to-text
 - Offer alternatives for visual information
 - Provide descriptions (text or spoken) for all images, graphics, videos, or animations



Multiple Means of Representation



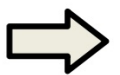
- Provide options for language, mathematical expressions, and symbols
 - Clarify vocabulary and symbols
 - Clarify syntax and structure
 - Support decoding text, mathematical notation, and symbols
 - Promote understanding across languages
 - Illustrate through multiple media



Multiple Means of Representation



- Provide options for comprehension
 - Activate or supply background knowledge
 - Highlight patterns, critical features, big ideas, and relationships
 - Guide information processing, visualization, and manipulation
 - Maximize transfer and generalization

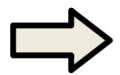


Strategic Network



- Provide Multiple Means of Action and Expression

Planning and performing tasks.
How we organize and express our ideas.
Writing an essay or solving a math problem are strategic tasks.



Provide Multiple Means of Action and Expression



Provide options for physical action

Provide options for expression and communication

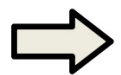
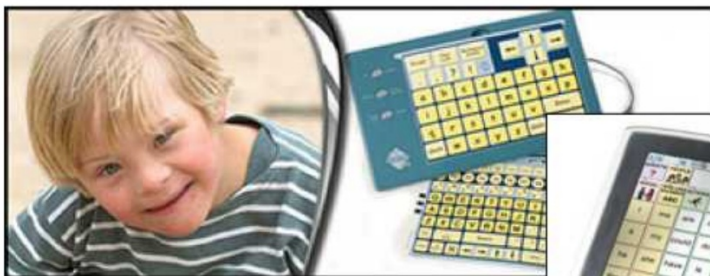
Provide options for executive functions



Provide Multiple Means of Action and Expression



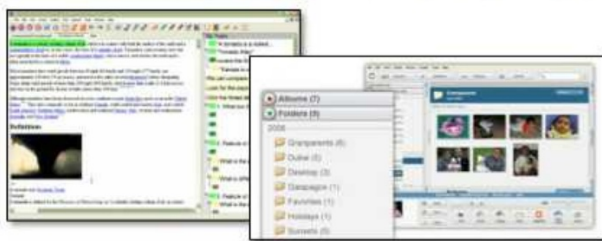
- Provide options for physical action
 - Vary the methods for response and navigation
 - Optimize access to tools and assistive technologies



Provide Multiple Means of Action and Expression



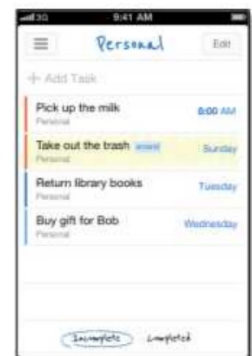
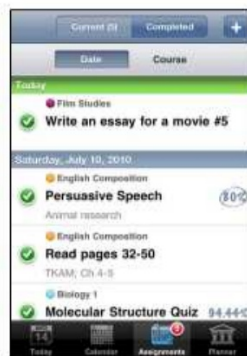
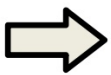
- Provide options for expression and communication
 - Use multiple media for communication
 - Use multiple tools for construction and composition
 - Build fluencies with graduated levels of support for practice and performance



Provide Multiple Means of Action and Expression



- Provide options for executive functions
 - Guide appropriate goal-setting
 - Support planning and strategy development
 - Facilitate managing information and resources
 - Enhance capacity for monitoring progress



Affective Network

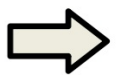


- Provide Multiple Means of Engagement

How learners get engaged and stay motivated.

How they are challenged, excited, or interested.

These are affective dimensions.



Provide Multiple Means of Engagement



Provide options recruiting interest

Provide options for sustaining effort and persistence

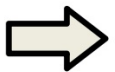
Provide options for self regulation



Provide Multiple Means of Engagement



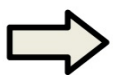
- Provide options for recruiting interest
 - Optimize individual choice and autonomy
 - Optimize relevance, value, and authenticity
 - Minimize threats and distractions



Provide Multiple Means of Engagement



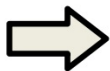
- Provide options for sustaining effort and persistence
 - Heighten salience of goals and objectives
 - Vary demands and resources to optimize challenge
 - Foster collaboration and communication
 - Increase mastery-oriented feedback



Provide Multiple Means of Engagement



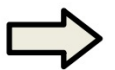
- Provide options for self-regulation
 - Promote expectations and beliefs that optimize motivation
 - Facilitate personal coping skills and strategies
 - Develop self-assessment and reflection



Student Response Systems



How can SRS be used to support UDL?



Student Response Systems

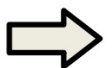


1. Self Paced Questions

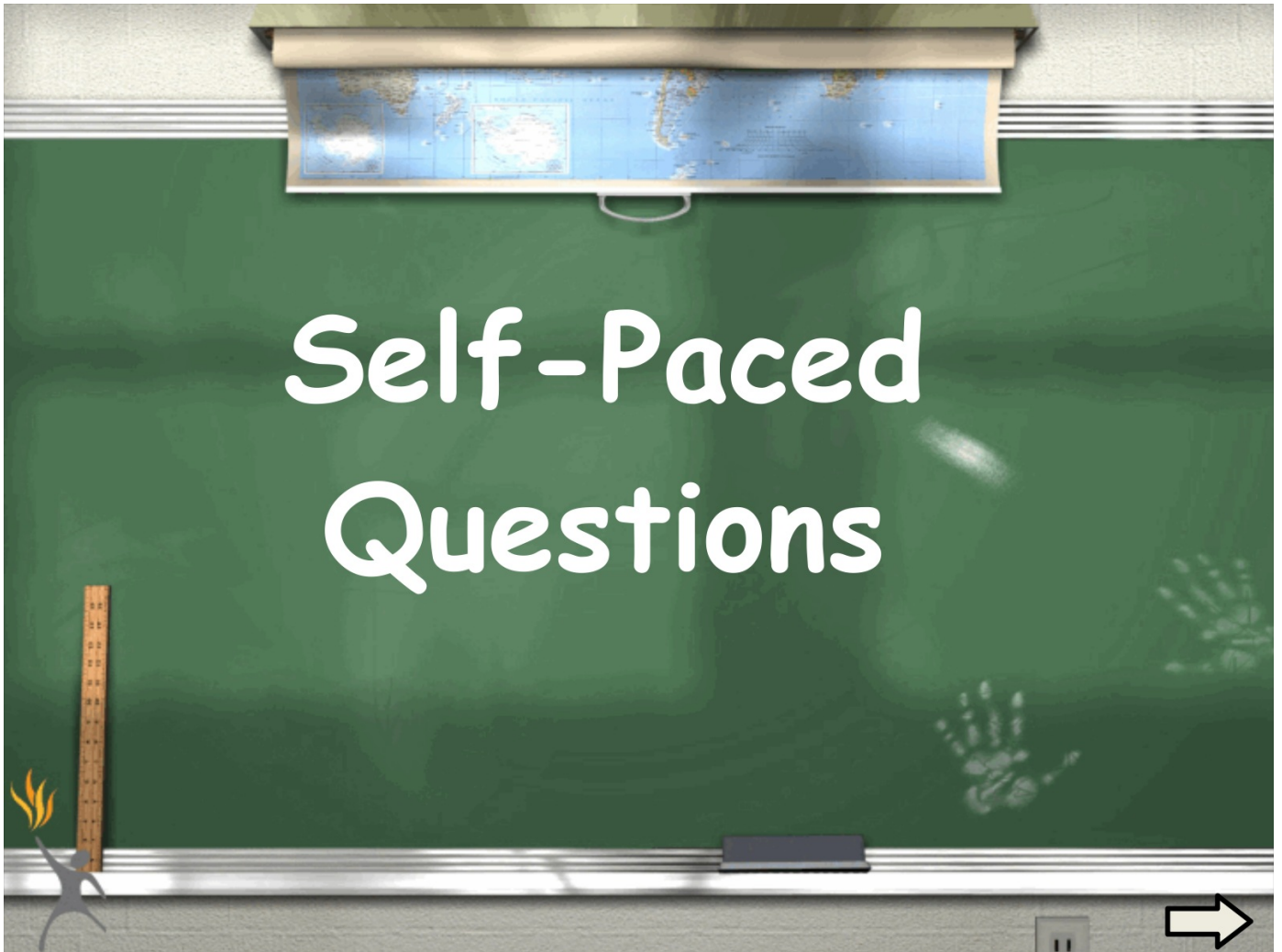
- Allows learners to progress at their own pace
- Questions are not displayed on flipchart
- Questions are displayed on ActivExpression or ActivEngage
- Use Self paced question wizard
- Shuffle questions, randomize answers
- Choose how many questions each learner must answer correctly before moving onto next question

2. Express Polls / Teacher Paced (Prepared Questions)

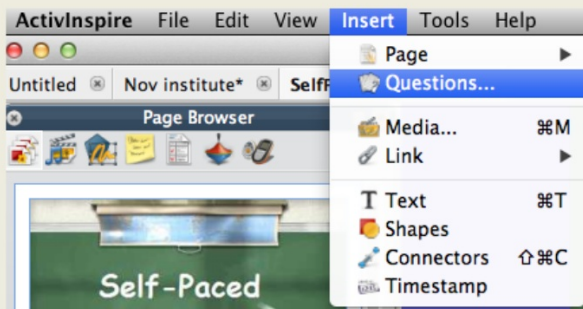
- Questions written on page
- One question per page
- Instant feedback on student performance



Self-Paced Questions



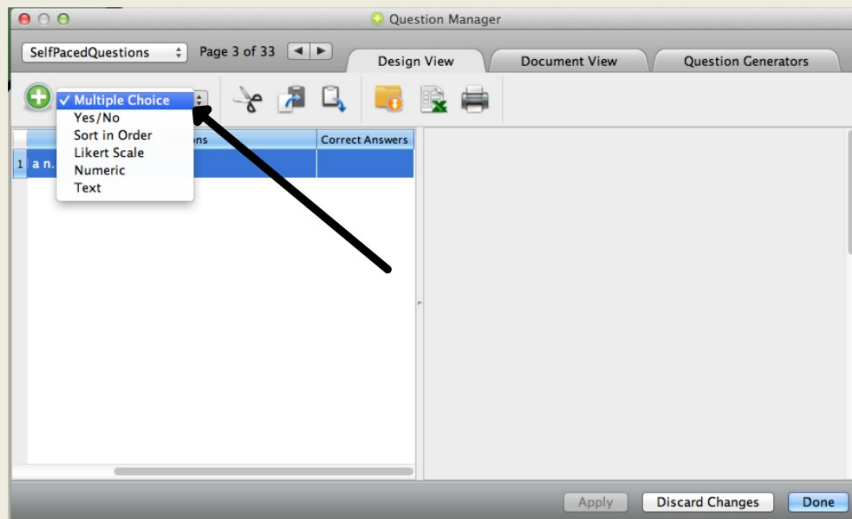
Adding Questions



Choose Insert > Questions



Adding Questions



Select the type of question you wish to enter



Adding Questions

Type question here

The screenshot shows the 'Question Manager' application window. At the top, there are tabs for 'Design View', 'Document View', and 'Question Generators'. Below the tabs is a toolbar with various icons. The main area is divided into two parts: a table on the left and a 'Question Properties' panel on the right.

| Question | Question Type | Options | Correct Answers |
|-----------------------------------|---------------|-------------------|-----------------|
| 1 What is the Symbol for Oxygen? | Multiple C... | N; C; D; Option 6 | O |
| 2 Type here to add a new question | | | |

The 'Question Properties' panel on the right shows the details for the selected question. It includes a 'Question type' dropdown set to 'Multiple Choice', a text input for the question 'What is the Symbol for Oxygen?', and a list of options (A, B, C, D) with their corresponding correct answer checkboxes. Option D is selected as the correct answer. There are also fields for 'Number of responses required' (set to 1), 'Assign correct answer' (checked), 'Time limit' (set to 2), and 'Include follow-on question' (unchecked). At the bottom of the panel are buttons for 'Apply', 'Discard Changes', and 'Done'.

Question type

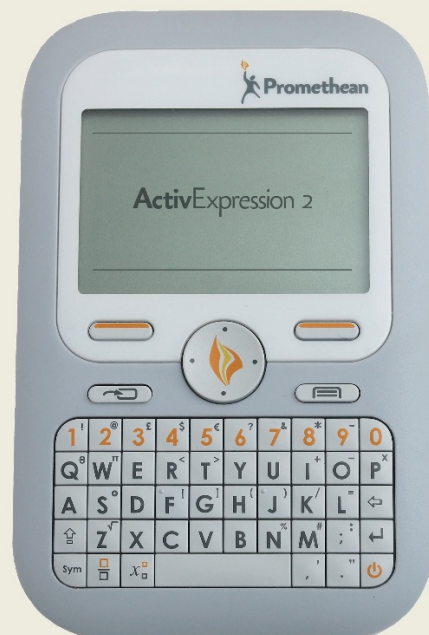
Correct answer

Time limit

Be sure you are on the page that questions will appear on



**Get your
ActiveExpression
controllers
READY!!!**



Adding Questions

nov14 2 Page 5 of 18 Design View Document View Question Generators

Multiple Choice

| Question | Question Type | Level | Options | Correct Answers |
|---|-----------------|---------|--|-----------------|
| Today is | Multiple Choice | Level 1 | Monday, Tuesday, Wednesday, Thursday | Thursday |
| The room is very hot | Yes/No | Level 1 | Yes; No | No |
| Tony won Teacher of the Year for Broward C... | Multiple Choice | Level 1 | 2009; 2010 | 2010 |
| What is the largest number | Multiple Choice | Level 1 | .1; .0001; .001; 1.0; Option 5; Option 6 | 1.0 |
| Sort these numbers from lowest to highest | Sort in Order | Level 2 | .01; .001; 1.0; .0001 | DBAC |
| Type here to add a new question | | | | |

Question Properties

Test Properties

Exam

Final

Time limit: 00:59:00

☐ Allow students to navigate the question set

☒ Control progress through levels

| Level | Correct Answers | Randomize |
|---------|-----------------|-----------|
| Level 1 | 3 | Yes |
| Level 2 | 2 | No |

☒ Allow students to retry incorrect answers

Test Feedback Properties

Send message to learner when

☒ Answer correct Correct

☐ Answer incorrect incorrect - the correct answer is XANSWER.

☐ Send summary

Flipchart Page Properties

☐ Replace the page content with a new design

Plain Text

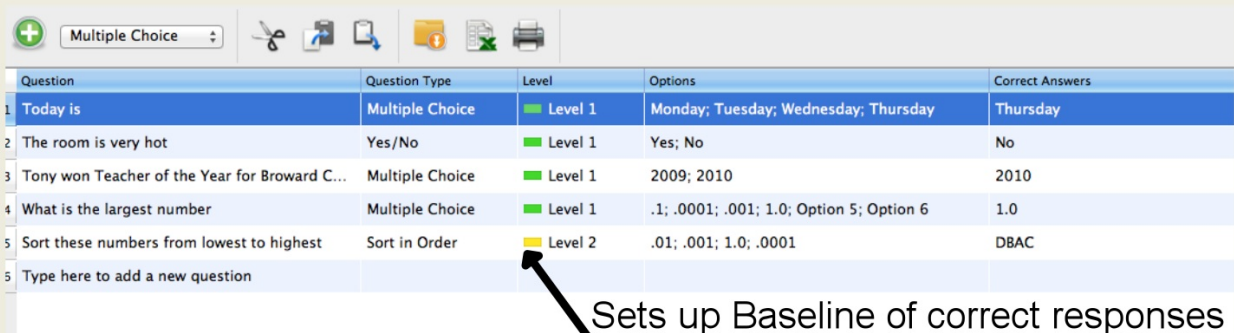
Plain Text

Apply Discard Changes Done

Insert > Questions



Adding Questions



The screenshot shows a software interface for adding questions. At the top, there is a toolbar with a green plus icon, a dropdown menu set to 'Multiple Choice', and icons for cut, copy, paste, insert, delete, and print. Below this is a table with five columns: Question, Question Type, Level, Options, and Correct Answers. The table contains five rows of sample questions. An arrow points from the text 'Sets up Baseline of correct responses' to the 'Level' column of the fifth row, which is 'Level 2'.

| | Question | Question Type | Level | Options | Correct Answers |
|---|---|-----------------|---------|--|-----------------|
| 1 | Today is | Multiple Choice | Level 1 | Monday; Tuesday; Wednesday; Thursday | Thursday |
| 2 | The room is very hot | Yes/No | Level 1 | Yes; No | No |
| 3 | Tony won Teacher of the Year for Broward C... | Multiple Choice | Level 1 | 2009; 2010 | 2010 |
| 4 | What is the largest number | Multiple Choice | Level 1 | .1; .0001; .001; 1.0; Option 5; Option 6 | 1.0 |
| 5 | Sort these numbers from lowest to highest | Sort in Order | Level 2 | .01; .001; 1.0; .0001 | DBAC |
| 5 | Type here to add a new question | | | | |

Sets up Baseline of correct responses



Adding Questions

▼ Test Properties

Test

Exam

Time limit 00:01:00

☒ Control progress through levels

| Level | Correct Answers | Randomize |
|---------|-----------------|-----------|
| Level 1 | 4 | Yes |
| Level 2 | 1 | No |

☐ Allow students to retry incorrect answers

▼ Test Feedback Properties

Send message to learner when

☒ Answer correct Correct

☐ Answer incorrect Incorrect

☐ Send summary

▼ Flipchart Page Properties

☐ Replace the page content with a new design

Sets up Baseline of correct responses



Question Generator

The screenshot shows the 'Question Manager' application window. The 'Question Generators' tab is active. On the left, the 'Basic Numeracy' generator is configured with 'Number of questions to generate' set to 10. The operation dropdown menu is open, showing options: '+', '-', 'x', '÷', and '+, -, x, ÷'. The 'Generate' button is visible. On the right, a table lists 10 generated questions, all of which are numeric addition problems at Level 1.

| Question | Question Type | Level |
|-----------|---------------|---------|
| 1 8 + 2 | Numeric | Level 1 |
| 2 12 + 12 | Numeric | Level 1 |
| 3 2 + 4 | Numeric | Level 1 |
| 4 3 + 8 | Numeric | Level 1 |
| 5 11 + 9 | Numeric | Level 1 |
| 6 3 + 10 | Numeric | Level 1 |
| 7 3 + 4 | Numeric | Level 1 |
| 8 6 + 4 | Numeric | Level 1 |
| 9 11 + 1 | Numeric | Level 1 |
| 10 1 + 3 | Numeric | Level 1 |

Choose operation

Click to generate test

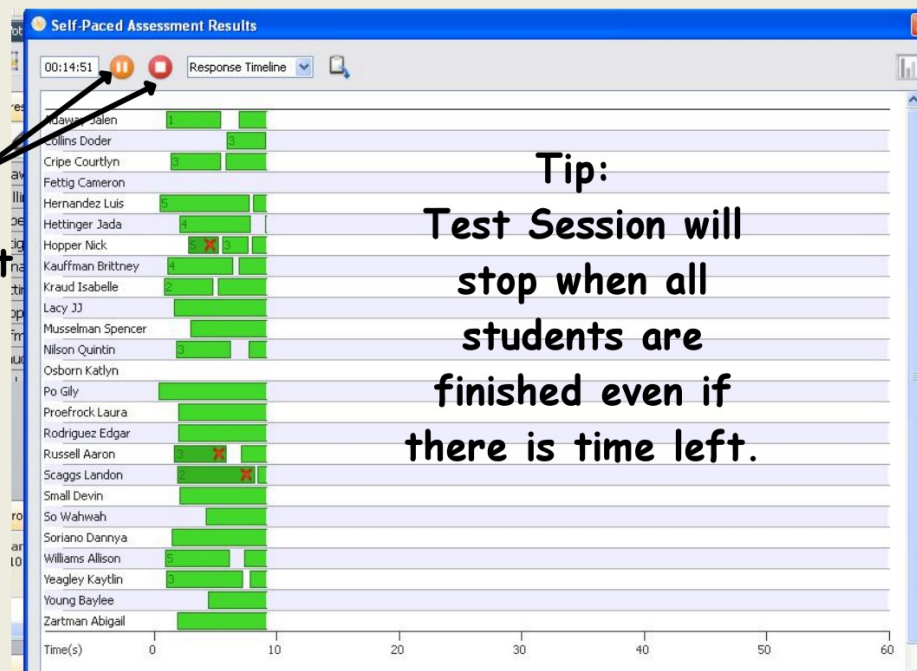
Apply changes



Answering the Question Set

While students are answering the questions, this will appear on the screen.

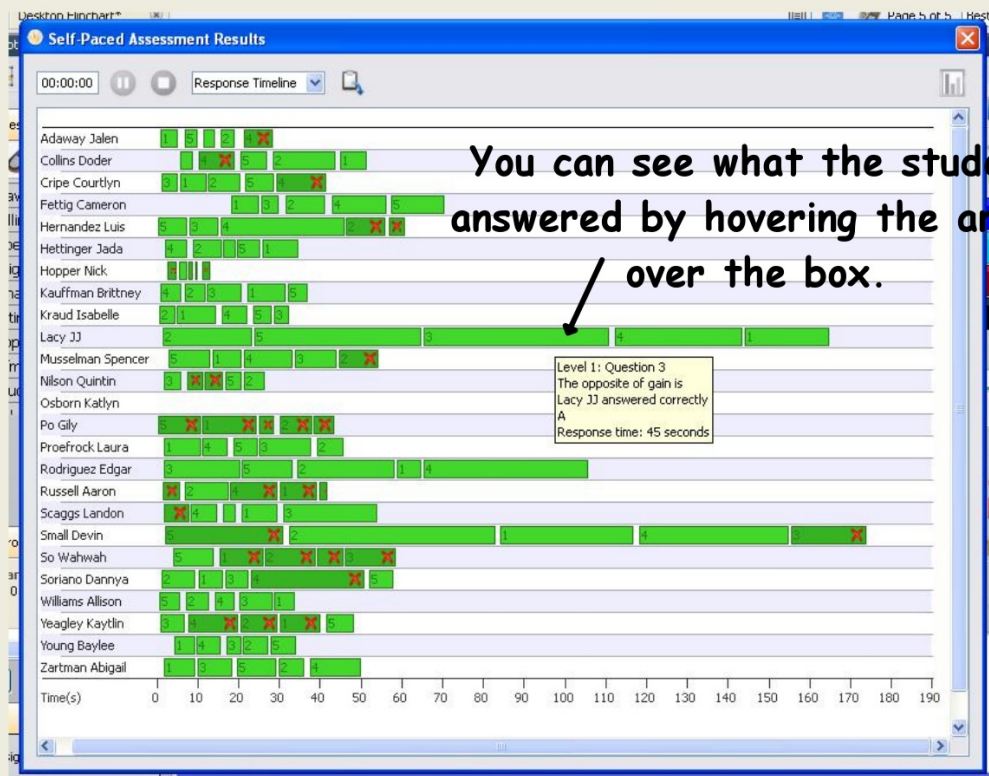
You can
Pause or
Stop the
students at
any time.



Tip:
Test Session will
stop when all
students are
finished even if
there is time left.



Reviewing Response



Reviewing Responses

Notice I changed the view.

00:00:00 [Pause] [Play] Level Summaries [Dropdown] [Print]

| Name | ✓ | ✗ | ⌚ |
|-------------------|---|---|------|
| Adaway Jalen | 4 | 1 | 0:04 |
| Collins Doder | 4 | 1 | 0:07 |
| Cripe Courtlyn | 4 | 1 | 0:07 |
| Fettig Cameron | 5 | 0 | 0:09 |
| Hernandez Luis | 3 | 2 | 0:11 |
| Hettinger Jada | 5 | 0 | 0:09 |
| Hopper Nick | 1 | 4 | 0:04 |
| Kauffman Brittney | 5 | 0 | 0:06 |
| Kraud Isabelle | 5 | 0 | 0:05 |

Question 1: The opposite of innocent is
Answered correctly in 4 seconds: B
Question 5: Which word is the same as drowsy?
Answered correctly in 3 seconds: C
Question 3: The opposite of gain is
Answered correctly in 3 seconds: A
Question 2: The opposite of raw is
Answered correctly in 3 seconds: D

00:00:00 [Pause] [Play] Level Summaries [Dropdown] [Print]

| Name | ✓ | ✗ | ⌚ |
|----------------|---|---|------|
| Adaway Jalen | 4 | 1 | 0:04 |
| Collins Doder | 4 | 1 | 0:07 |
| Cripe Courtlyn | 4 | 1 | 0:07 |
| Fettig Cameron | 5 | 0 | 0:09 |
| Hernandez Luis | 3 | 2 | 0:11 |

Question 4: Which word is the same as alter?
Answered incorrectly in 7 seconds: B should be: D

00:00:00 [Pause] [Play] Level Summaries [Dropdown] [Print]

| Name | ✓ | ✗ | ⌚ |
|-------------------|---|---|------|
| Adaway Jalen | 4 | 1 | 0:04 |
| Collins Doder | 4 | 1 | 0:07 |
| Cripe Courtlyn | 4 | 1 | 0:07 |
| Fettig Cameron | 5 | 0 | 0:09 |
| Hernandez Luis | 3 | 2 | 0:11 |
| Hettinger Jada | 5 | 0 | 0:09 |
| Hopper Nick | 1 | 4 | 0:04 |
| Kauffman Brittney | 5 | 0 | 0:06 |
| Kraud Isabelle | 5 | 0 | 0:05 |
| Lacy JJ | 5 | 0 | 0:32 |

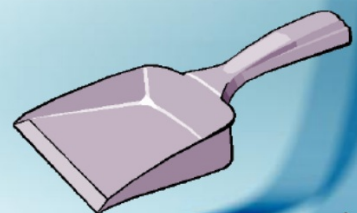
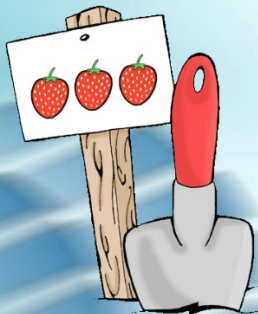
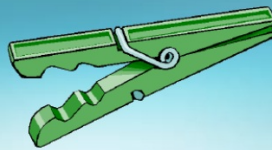
Question 1: The opposite of innocent is
Answered correctly in 4 seconds: B
Question 5: Which word is the same as drowsy?
Answered correctly in 3 seconds: C
Question 3: The opposite of gain is
Answered correctly in 3 seconds: A
Question 2: The opposite of raw is
Answered correctly in 3 seconds: D
Question 4: Which word is the same as alter?
Answered incorrectly in 7 seconds: B should be: D

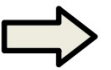
This is another way to view how the students did on the question set.



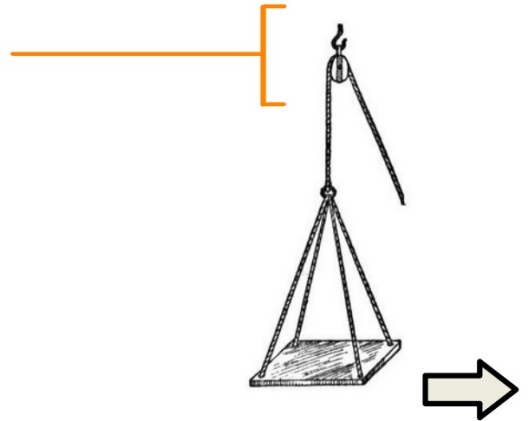
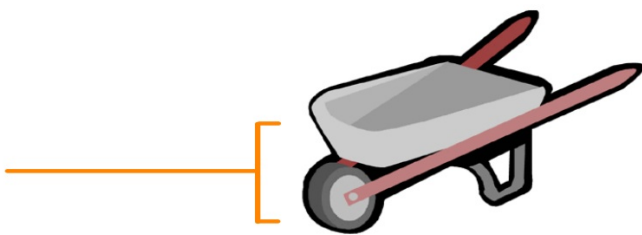
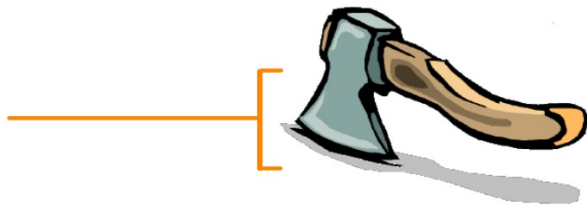
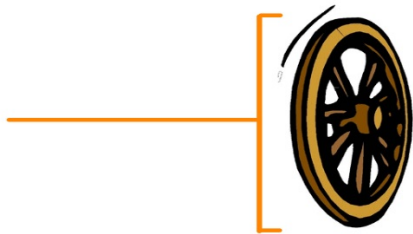
Types of Simple Machines

Physical Science
Grade 3





Name the Simple Machines

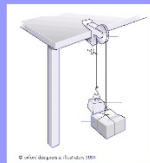


Put the simple machine in the correct category:

Levers

Pulley

Inclined Plane



Wheel & Axle

Wedge

Screw



Put the simple machine in the correct category:

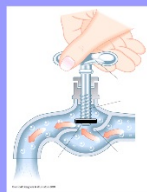
Levers



Pulley



Inclined Plane



Wheel & Axle



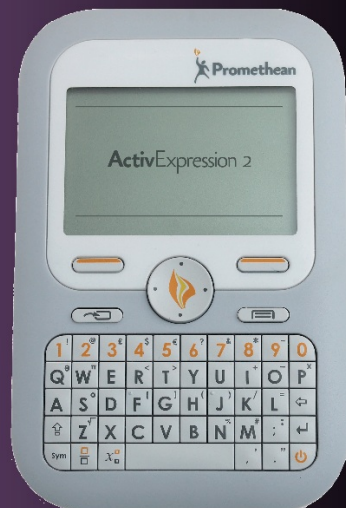
Wedge



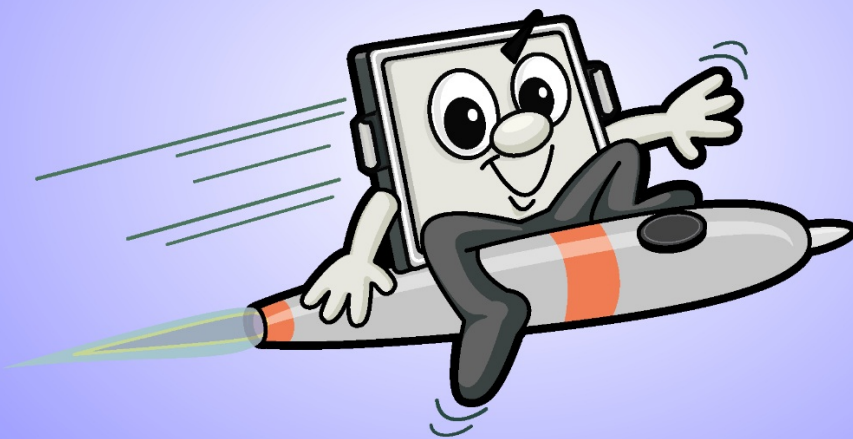
Screw



Get your
ActiveExpression
controllers
READY!!!



It's Quiz Time!!!



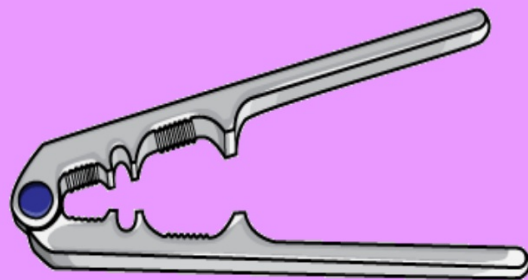
1. Which of the following is an example of work?

- ☐ a holding a dog
- ☐ b packing a bag
- ☐ c pushing against a wall
- ☐ d thinking about a math problem



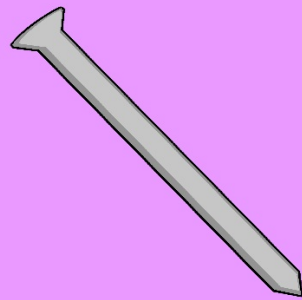
2. This is an example of a:

- ☐ a wedge
- ☐ b screw
- ☐ c lever
- ☐ d wheel-and-axle



3. This is an example of:

- ☐ a wedge
- ☐ an inclined plane
- ☐ a lever
- ☐ a screw



Express Poll



ActivEngage



<http://www.prometheanplanet.com/en/Support/Support.aspx>

1. Learner Response Systems > ActivEngage > Download
2. English US
3. Choose PC/ MAC or Mobile Download



Get your
ActiveEngage
devices
READY!!!

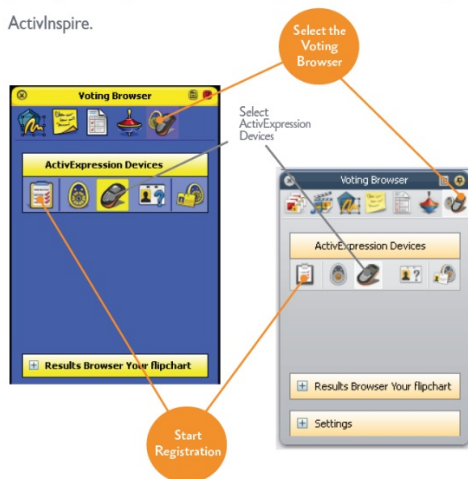


Register Your Device



ActivInspire

Device registration is the process of telling the ActivHub how many ActivEngage clients there are in the classroom, and their names. You need to register ActivEngage clients before you begin a voting session. You start registration from the Voting Browser in ActivInspire.



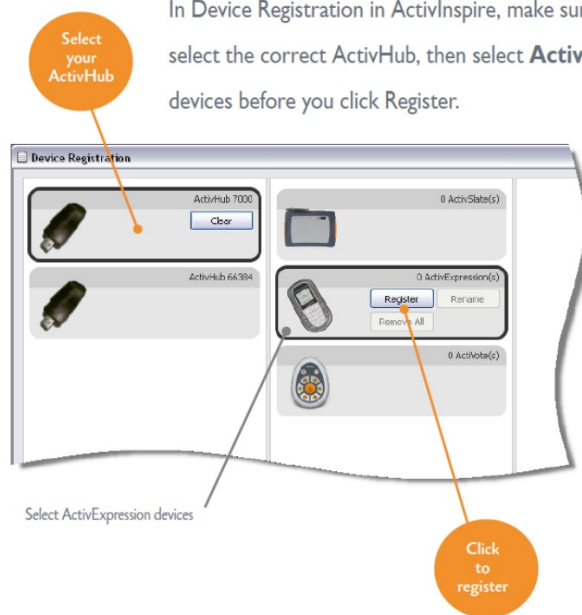
Make sure that your students have started ActivEngage on their computers.



Register Your Device



In Device Registration in ActivInspire, make sure that you select the correct **ActivHub**, then select **ActivExpression** devices before you click Register.

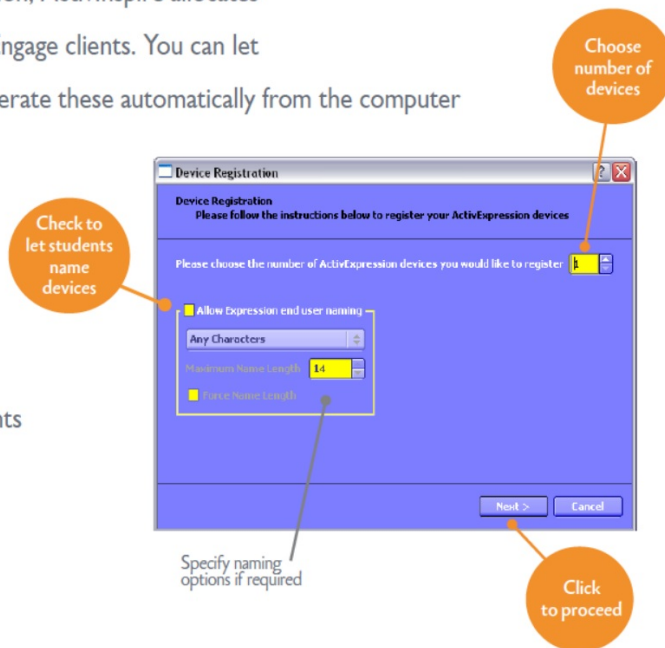


ActivInspire

Register Your Device



During registration, ActivInspire allocates names to ActivEngage clients. You can let ActivInspire generate these automatically from the computer names, or let students enter a name at the keyboard. You can also rename the clients later.

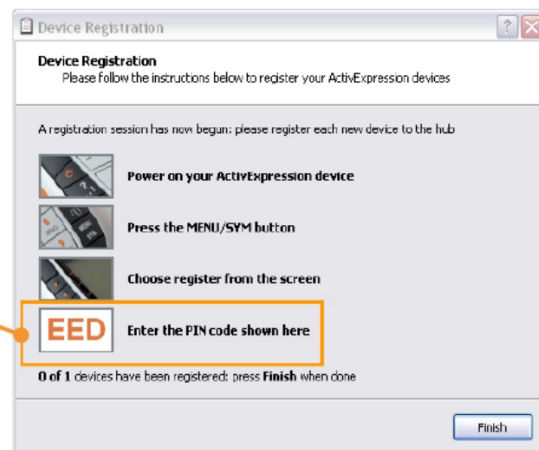


Register Your Computer



ActivInspire

PIN to be
entered by
students



To register, students must connect to an ActivHub. The connection method depends on the network setup, and affects what students have to do.

Check the prompt on the students' ActiveEngage displays.

Register Your Computer



ActivEngage



Students click **Connect**, then enter the PIN

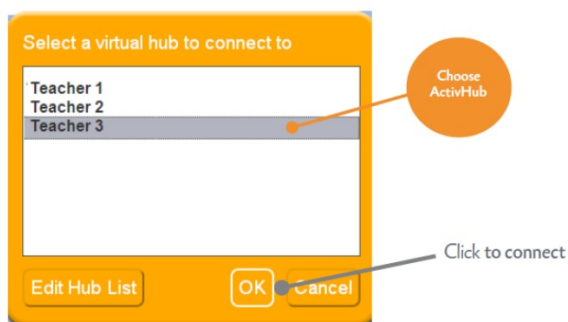
Automatic hub selection



Students click **Select a hub**, choose a hub from the list, then enter the PIN

Manual hub selection

Register Your Computer



ActiveEngage

All students must enter the correct PIN.



Register Your Computer



If you chose to let students name their ActivEngage clients, they must enter the name now.



The ActivEngage display now shows that the client is registered and connected.

ActivEngage



Register Your Computer



As soon as students
send the correct PIN, Device Registration
shows their ActivEngage clients as registered.
Each client's name has two parts.
The first part is allocated
automatically.

ActivInspire

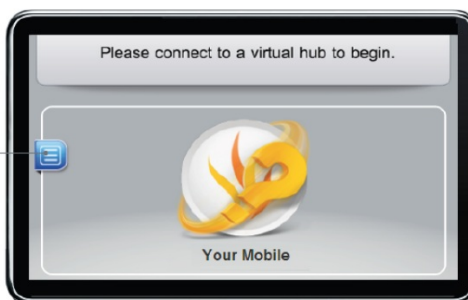


Register Your Mobile Device

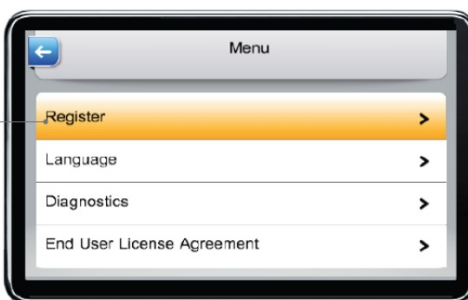


To register, learners must enter the 3-letter PIN generated in ActivInspire or Promethean ActivOffice on their devices.

1. Tap **Menu**.



2. Tap **Register**.



Register Your Mobile Device



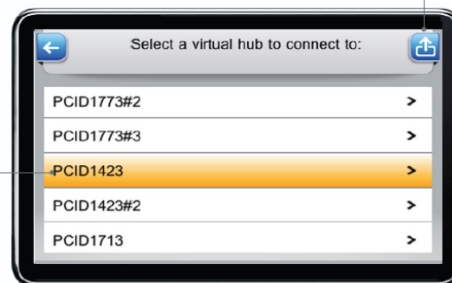
Learners in institutions that use Distributed Directory mode need to complete the following additional steps:

Note:

Learners may need to scroll up or down to display *your* virtual ActivHub.

2. Tap **Send**.

1. Tap to select *your* virtual ActivHub from the list.

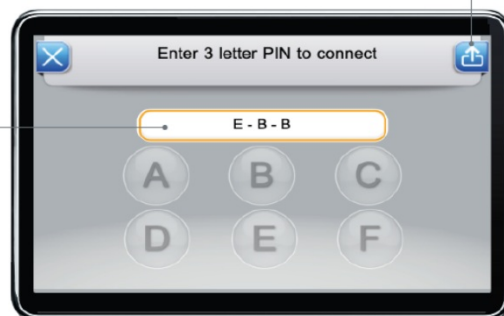


Register Your Mobile Device



All learners must complete the following steps:

3. Enter 3-letter PIN.



4. Tap Send.

Register Your Mobile Device



If you chose to let learners name their Promethean ActivEngage Mobile clients, they must enter the name now.

2. Tap **Send**.

1. Enter name.

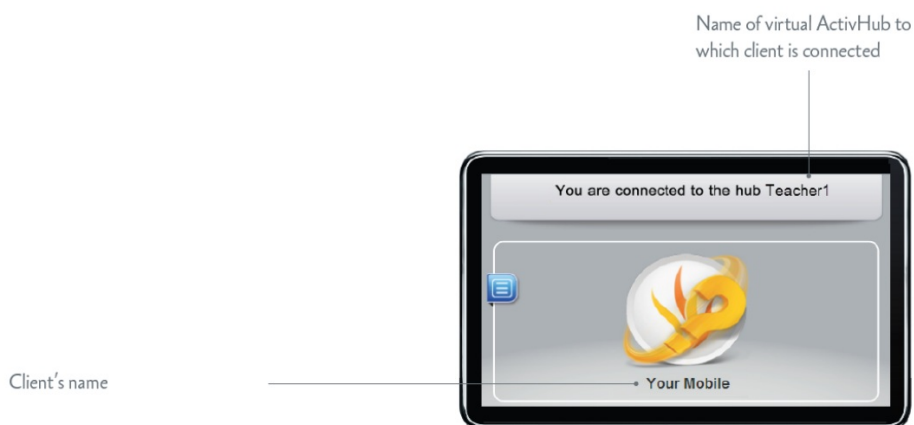


Register Your Mobile Device



The PIN and, if entered, the name, is sent to ActivInspire or Promethean ActivOffice.

If learners have entered the correct PIN, the device now shows that the client is registered and connected to the selected virtual ActivHub.



It's Quiz Time!!!



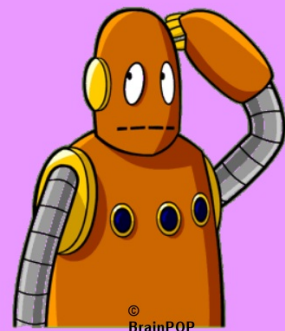
1. What is a slanted surface that makes it easier to move objects?

- ☐ a pulley
- ☐ b work
- ☐ c lever
- ☐ d inclined plane



2. What is a wheel with a rope that goes around it?

- ☐ a fulcrum
- ☐ b pulley
- ☐ c inclined plane
- ☐ d screw



3. Which of these objects at the playground is an example of a lever?

 a jungle gym

 b seesaw

 c slide

 d swing

Make It Accessible For All



It's Quiz Time!!!



1. How do scientists measure work?

- a friction
- b fulcrum
- c effort
- d load



2. What do threads wrapped around a post form?



lever



fulcrum

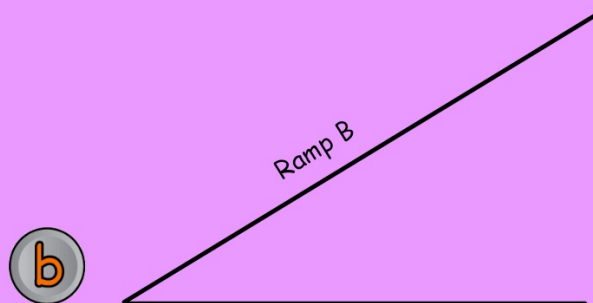
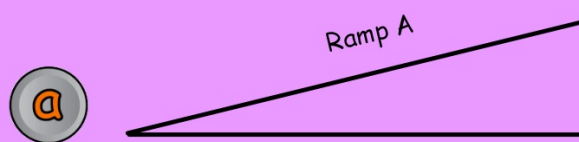


pulley



screw

3. Which ramp uses more work?





SRS



What else could be used to make SRS accessible?

Resources



Lesson plans, Resources, PD

<http://www.prometheanplanet.com/en/>

ActivInspire - A basic introduction

<http://www.youtube.com/watch?v=EGsBwOF3kAI>

National Center for UDL

<http://cast.org/udl/index.html>